ALEXANDER B. RUDIN

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OBJECTIVE

Highly motivated mechanical engineer seeking a position in industry utilizing my joint mechanical engineering and computer science background, my experience working in a variety of project environments, and my interest in helping a company innovate and optimize their internal and external processes.

EDUCATION

University of Virginia, **School of Engineering and Applied Science** Charlottesville, VA

B.S. Mechanical Engineering Minor: Computer Science Expected 2020

- **Cumulative GPA: 3.88**

EXPERIENCE

Zeta Associates, Inc. – *Software Development Intern* – Fairfax, VA May – August 2019

- Used Python to develop, test, and benchmark production-level code for a digital signal processing algorithm
- Utilized CUDA library with NVIDIA GPUs to improve runtime

Clark Construction Group, LLC – *Research & Development Intern* – Bethesda, MD May – August 2018

- Used pug and node.js to implement an interface used by project teams to automate sending requisitions and Release of Liens to subcontractors

Windpact, Inc. – *Engineering and Design Intern* – Leesburg, VA May 2017 – January 2018

- Developed CAD models in Solidworks for vacuum form molds and CNC machined the molds on a ShopBot using VCarve CAM software
- Used vacuum former and RF Welder to build pad prototypes and assembled prototypes into sports helmets

PROJECTS

Magnetically-Actuated Ferrofluid Clock – Capstone MAE 4610/4620 August – December 2019

- Used Parallax Propeller chip with mechatronic servomotor system and Parallax LCD screen to implement user interface

Machine Learning Analysis of Fish Habitat Degradation in Virginia – CS 4774 December 2019

- Conducted Random Forest, Decision Tree, K-means Clustering, and Neural Network models on fish habitat degradation data to determine the best model and make claims about feature importance

Two-Axis Pen Printer – MAE 4710 April 2019

- Controlled stepper motor, servo motor, and DC Brush motor with Parallax Propeller microcontroller to create 2D drawings based on digital images converted to G code

Wooden-Frame Lofted Bed – Personal January 2019

- Designed, CAD modeled, and built lofted bed from 2x4s and 4x4s using traditional workshop power tools

TECHNICAL SKILLS

Certified Solidworks Associate (CSWA), Autodesk Fusion, Autodesk Inventor, MATLAB, C++, Python, Java, HTML, CSS, JavaScript, Pug, Scikit-Learn, Microsoft Office Suite, Keras Tensorflow

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

UVa ULink Peer Advising, *Adviser* August 2017 – present

UVa Club Ultimate Frisbee, *Vice President (*2018 – 2019*), Captain (*2019 – 2020) August 2016 – present

AWARDS

Pi Tau Sigma Mechanical Engineering Honor Society September 2018 – present

Tau Beta Pi Engineering Honor Society October 2018 – present

Finalist for UVa Entrepreneurship Cup Concept Competition November 2016